

ABSTRACT OF THE DISCLOSURE

A liquid crystal display is provided that includes liquid crystal pixel cells arranged at each intersection between a plurality of gate lines and a plurality of data lines, a thin film transistor associated with each pixel cell, a storage capacitor, and a smectic liquid crystal between an upper substrate and a lower substrate. The smectic liquid crystal has spontaneous polarization in a range of approximately $2\text{nC}/\text{cm}^2$ to $100\text{nC}/\text{cm}^2$ and a storage capacitance is in a range of approximately $1\text{nF}/\text{cm}^2$ to $13\text{nF}/\text{cm}^2$ for optimizing transmittance depending on the spontaneous polarization of the smectic liquid crystal.

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